

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-8 (Canceled).

Claim 9 (New): A method for synthesis of a routing, comprising:

a) obtaining parameters of:

different configurations of service variants and calculator variants and a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one,

cost characteristics of components stored and weighted as a function of their respective installation proportions,

partial or complete mapping of service variants onto calculator variants,

b) identifying valid routings;

c) evaluating routing cost of the valid routings for each configuration; and

d) determining the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.

Claim 10 (New): A method according to claim 9, wherein a quality characteristic expressed as breakdowns per million is considered to compare respective measures of two candidate architectures for a product plan.

Claim 11 (New): A method according to claim 10, wherein one of the quality characteristics considered is weight.

Claim 12 (New): A method according to claim 9, further comprising automatically calculating a cost of assembly of electrical and electronic architecture as a function of a cost of assembly of a strand on a zone, of a cost of assembly of a connector on a zone boundary or on a zone, of a cost of assembly of a calculator on a zone, of a cost of assembly of a sensor or actuator on a zone, and of a cost of connection of a connector between zones or in a zone.

Claim 13 (New): A method according to claim 9, further comprising synthesizing optimal routing for all configurations, by repeating operations a) to d), criterion for minimization being a cost composed of:

- an estimated recurrent cost of parts,
- an estimate of quality cost in anticipation of the cost of repair per zone, this quality cost being increased by a constant cost depending on the zone and its ease of access,
- an estimate of the cost of weight, taking into account mechanical wear and consumption related to an increase of the weight of the vehicle, and/or
- an estimate of the cost of assembly.

Claim 14 (New): A method according to claim 9, applied to synthesis of the electrical architecture of a newly created product or to synthesis of an electrical architecture modified relative to a previous architecture.

Claim 15 (New): A manufactured article comprising:
a computer storage means having a computer program for synthesizing a routing, wherein the computer program comprises a code for execution of the method defined in claim 9.

Claim 16 (New): A device for synthesis of a routing, comprising:

a) means for obtaining parameters of:

different configurations of service variants and calculator variants and a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one,

cost characteristics of components stored and weighted as a function of their respective installation proportions,

partial or complete mapping of service variants onto calculator variants,

b) means for identifying valid routings;

c) means for evaluating routing cost of the valid routings for each configuration; and

d) means for determining the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.